

A NOTE ON THE OCCURRENCE OF *RHABDOPLEURA ANNULATA* IN SOUTH AUSTRALIAN WATERS

BY PROFESSOR T. HARVEY JOHNSTON, UNIVERSITY OF ADELAIDE.

THE only published reference to the presence of *Rhabdopleura* in Australian waters is that of Harmer (1904, p. 23) who found in South Australian material a fragment which he did not determine specifically. Norman (1921, p. 98) described *R. annulata* from localities close to the Three Kings, a group of islands lying to the north of New Zealand. His material consisted of coenoecia found on stones and on a shell dredged from depth of 183 and 549 metres.

In an account which has for some years been awaiting publication in the Reports of the Australasian Antarctic Expedition of 1911-1914, the present author has recorded the finding of fragments amongst the debris from a dredging in 65 fathoms off Maria Island on the east coast of Tasmania. Mention is also made in that report of the occurrence of the same species, identified as *R. annulata*, at two collecting stations (Nos. 113 and 115) of the British, Australian and New Zealand Antarctic Research Expedition of 1929-1931, both localities being off the eastern coast of Tasmania, viz.: (1) 42° 40' S, 148° 27.5' E, in 122 metres, as well as in 155 to 178 metres; and (2) 41° 03' S, 148° 42' E, in 128 metres. The latter locality is close to the entrance to Banks Strait.

In the report just mentioned, it was suggested that Harmer's material which was not definitely localized, might have been detected in dredgings taken from South Australian waters by the late Sir Joseph Verco who, we know, forwarded his collection of Polyzoa to that investigator for identification. The continental shelf in the vicinity of Kangaroo Island was suggested as a possible locality because of the depth. A mass of Polyzoa taken by Verco from various localities off our southern coast is at present in the collection of the South Australian Museum, and this was examined macroscopically in 1936 at my request by B. C. Cotton and by L. Stach, the latter being especially engaged in a study of the group. My own examination was only a cursory one. As a result of these searches, no trace of the characteristic peristomial tubes or pectocaulus was recognized.

In May of the present year, scrapings of the material adherent to the under surface of rocks at, or just below, low spring tide mark at Port Willunga Reef were examined for their content of lower invertebrate life and, quite unexpectedly, a fairly long, well preserved coenoecium of *R. annulata* was found. The specimen was probably not taken *in situ* and no doubt was washed up from deeper water in

the vicinity as a result of storm action. The locality is open to the influence of south-westerly gales, so that it is possible that the tube may have been carried from the sea floor of Investigator Strait, whose depth varies from 60 to 70 fathoms between the end of Eyre's Peninsula and the western part of Kangaroo Island, but diminishes to 12 to 17 fathoms between the island and Yorke's Peninsula. The adjacent part of St. Vincent's Gulf varies from about 20 to 12 fathoms, shallowing rapidly close to the coast in the vicinity of Port Willunga.

As Harmer's article was published in 1904, his specimen must have been taken either in that year, or more probably earlier. Verco had been engaged in dredging prior to that date, but he stated (1935 Edit. Cotton) that, prior to January 1905, he had never dredged in depths greater than 35 fathoms.

The Port Willunga specimen, on which numerous minute filamentous algae were growing, is 2.53 mm. long and 0.265 mm. broad, the internal diameter of the tube being 0.19–0.192 mm. The maximum thickness of the wall at the projecting portion of each ring is 0.02–0.025 mm. The rings resemble closely those figured by Norman and are 0.042–0.045 mm. apart. The length of the fragment is much greater than in those illustrated by Norman who noted, however, that such was variable, and reminded one of those of *R. normani* Allman. The projecting rim and other features agree completely with Norman's figures. It is to be remarked that *R. normani* is a very widely distributed species, occurring off Greenland, the Shetland Islands, the coast of Norway, and in the South Atlantic off Tristan da Cunha where it was taken by the "Challenger". The known depths for that species range from 5 metres (according to Schepotieff) to 500 metres. Broch (1927, p. 468) recorded briefly the finding of fragments of *R. normani* by the "Gauss" in the Antarctic at 66° 02' S, 89° 38' E, in 350 metres, but since he considered that there was only one valid species (*R. normani*), and as he did not figure his specimen, its relation to *R. annulata* is not known. A specimen taken by the "Siboga" in the East Indies, south-westerly from Celebes, in 75 to 94 metres and described by Harmer (1905, 127, Text fig. 2) as *Rhabdopleura* sp., was assigned by Norman (1921, 101) to *R. annulata*.

The present note extends greatly the known range of the species, which now includes the seas off the northern part of New Zealand, the east coast of Tasmania from Maria Island to Banks Strait, and the region in the vicinity of the entrance to St. Vincent's Gulf in South Australia.

REFERENCES.

- Broch, H. (1927) : Die Pterobranchier, Rhabdopleura. *Deutsche Südpolar Exped.*, 19 (Zool. 11), 468.
- Harmer, S. F. (1904) : Hemichordata. *Cambr. Nat. Hist.*, 7, 21–32.
- Harmer, S. F. (1905) : The Pterobranchia of the “Siboga” Expedition. *Siboga-Expeditie*. Monogr. 26 bis, 132, pp. .
- Johnston, T. H. (1911–1914) : Rhabdopleura. *Rep. Austr. Antarct. Exp.*, Ser. C, 3 (4), in press.
- Norman, J. R. (1921) : Brit. Antarct. (“Terra Nova”) Exp., *Nat. Hist. Rep. Zool.*, 4 (4), 95–102.
- Verco, Sir J. (1935) : *Combing the Southern Seas*. (Edit. by B. C. Cotton), Adelaide.